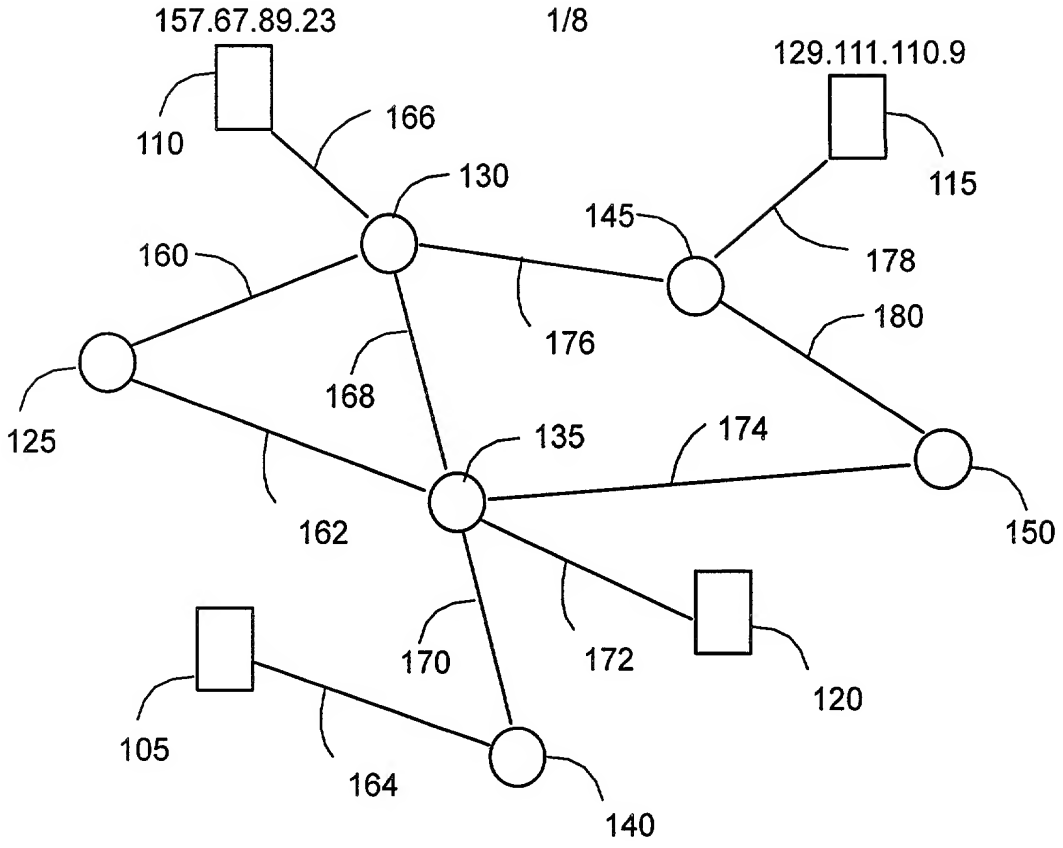


Figure 1

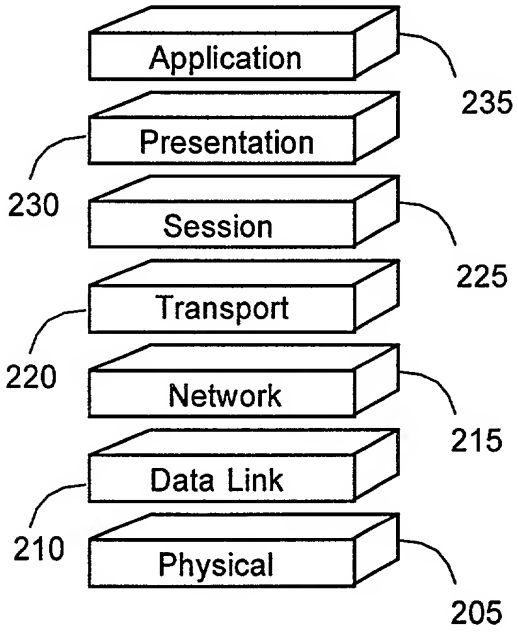


Figure 2

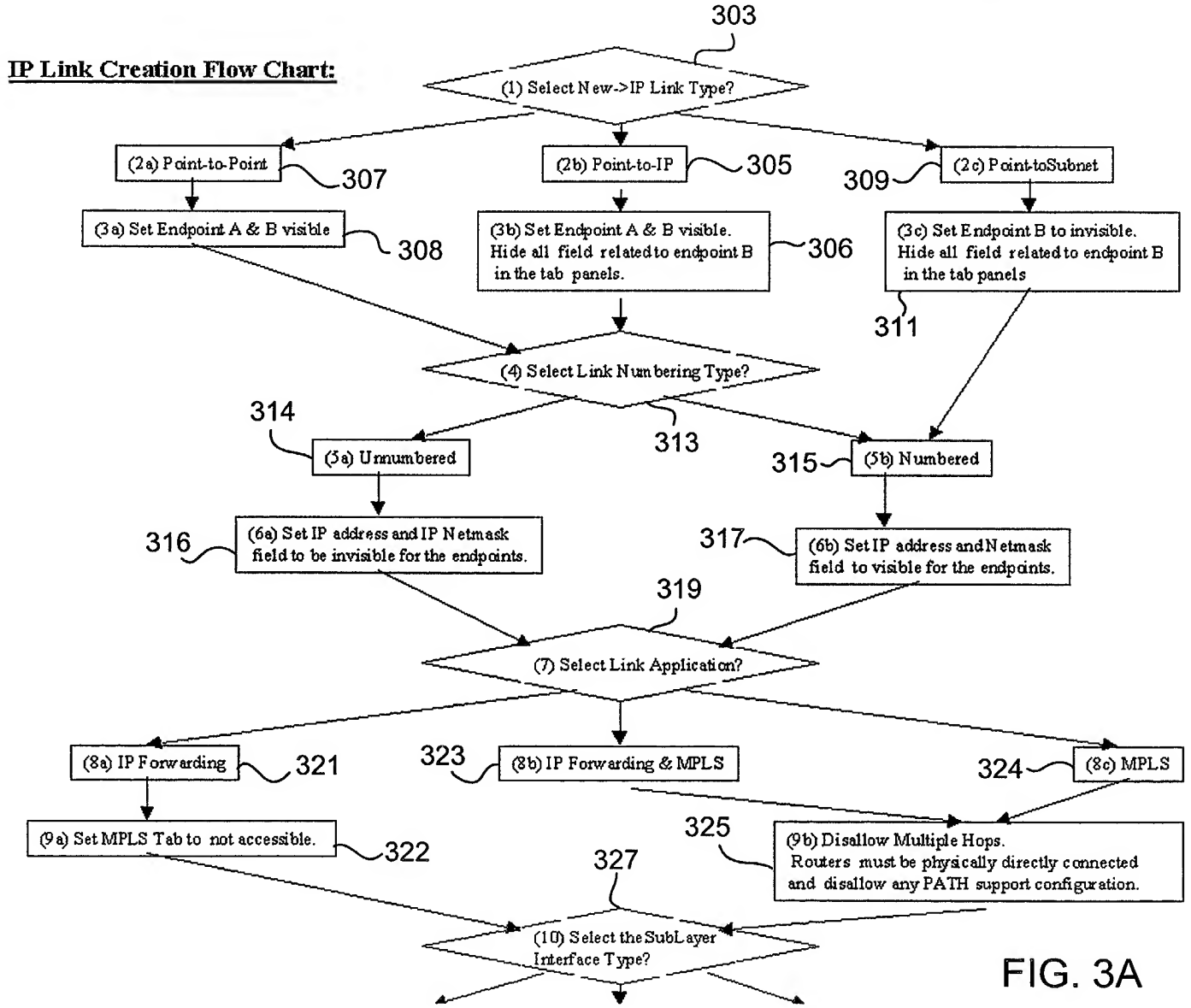

IP Link Creation Flow Chart:
303
(1) Select New->IP Link Type?
(2a) Point-to-Point
307
(2b) Point-to-IP
305
309
(2c) Point-toSubnet
(3a) Set Endpoint A & B visible
308
(3b) Set Endpoint A & B visible. Hide all field related to endpoint B in the tab panels.
306
(3c) Set Endpoint B to invisible. Hide all field related to endpoint B in the tab panels
311
(4) Select Link Numbering Type?
314
313
315
(5a) Unnumbered
(5b) Numbered
316
(6a) Set IP address and IP Netmask field to be invisible for the endpoints.
317
(6b) Set IP address and Netmask field to visible for the endpoints.
319
(7) Select Link Application?
(8a) IP Forwarding
321
323
(8b) IP Forwarding & MPLS
324
(8c) MPLS
(9a) Set MPLS Tab to not accessible.
322
325
(9b) Disallow Multiple Hops. Routers must be physically directly connected and disallow any PATH support configuration.
327
(10) Select the SubLayer Interface Type?

FIG. 3A

FIG. 3B

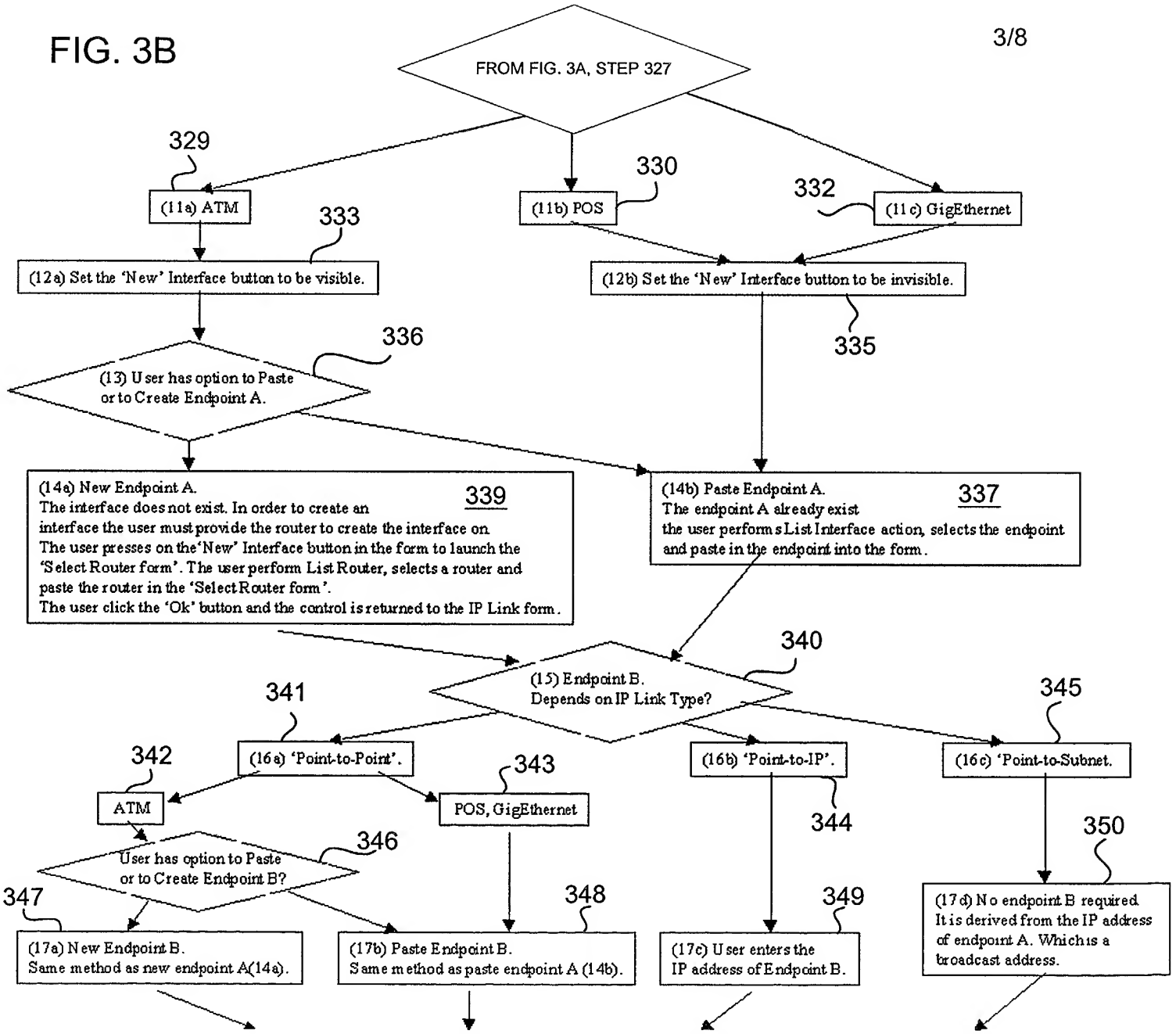
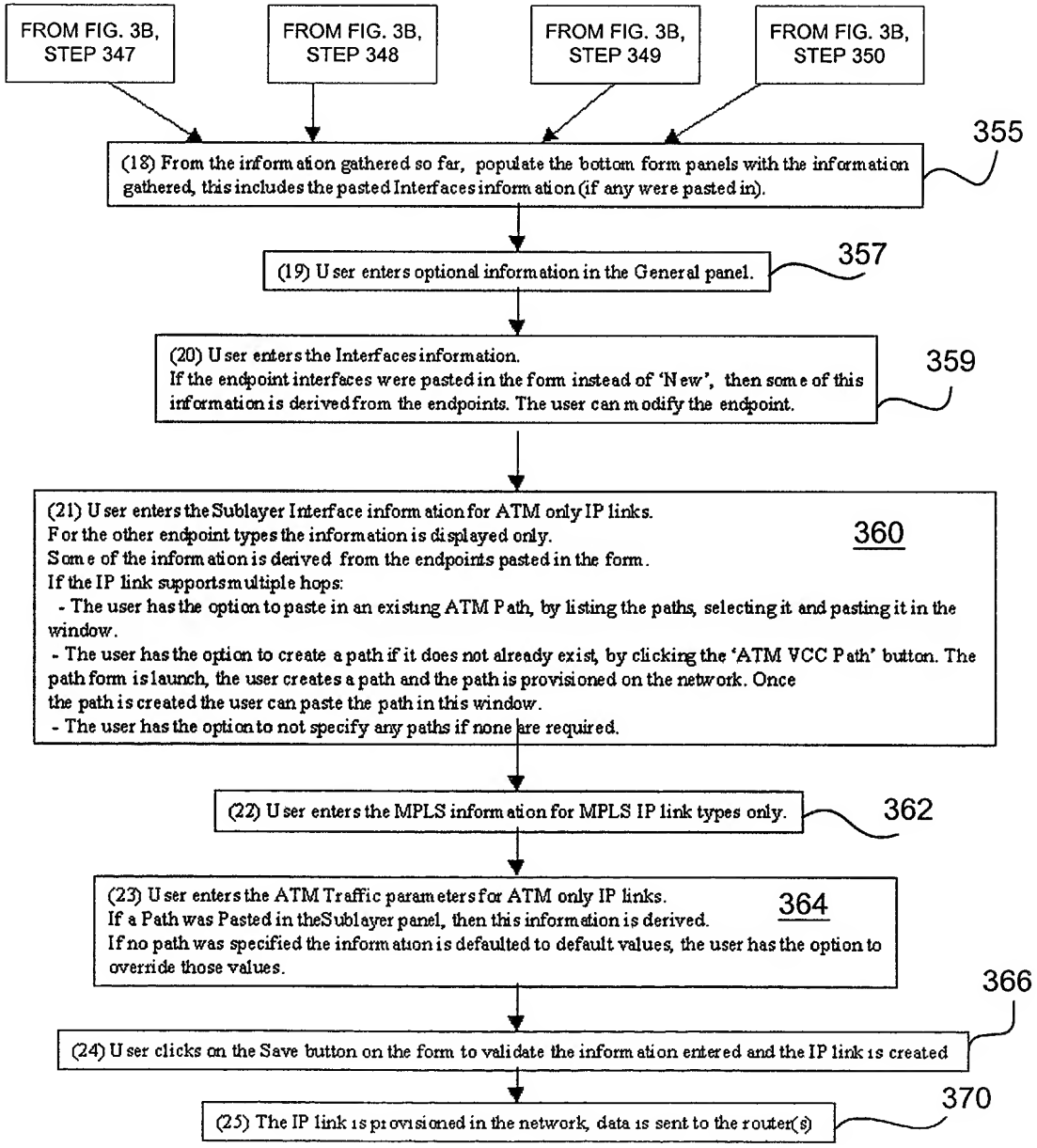

FROM FIG. 3A, STEP 327
329
330
332
(11a) ATM
(11b) POS
(11c) GigEthernet
333
(12a) Set the 'New' Interface button to be visible.
(12b) Set the 'New' Interface button to be invisible.
335
336
(13) User has option to Paste or to Create Endpoint A.
(14a) New Endpoint A.
The interface does not exist. In order to create an interface the user must provide the router to create the interface on.
The user presses on the 'New' Interface button in the form to launch the 'Select Router form'. The user perform List Router, selects a router and paste the router in the 'Select Router form'.
The user click the 'Ok' button and the control is returned to the IP Link form.
339
(14b) Paste Endpoint A.
The endpoint A already exist
the user performs List Interface action, selects the endpoint and paste in the endpoint into the form.
337
340
(15) Endpoint B.
Depends on IP Link Type?
341
345
342
343
(16a) 'Point-to-Point'.
(16b) 'Point-to-IP'.
(16c) 'Point-to-Subnet.
ATM
POS, GigEthernet
344
350
346
User has option to Paste or to Create Endpoint B?
347
348
349
(17a) New Endpoint B.
Same method as new endpoint A(14a).
(17b) Paste Endpoint B.
Same method as paste endpoint A (14b).
(17c) User enters the IP address of Endpoint B.
(17d) No endpoint B required.
It is derived from the IP address of endpoint A. Which is a broadcast address.

FIG. 3C


FROM FIG. 3B, STEP 347
FROM FIG. 3B, STEP 348
FROM FIG. 3B, STEP 349
FROM FIG. 3B, STEP 350
355
(18) From the information gathered so far, populate the bottom form panels with the information gathered, this includes the pasted Interfaces information (if any were pasted in).
357
(19) User enters optional information in the General panel.
359
(20) User enters the Interfaces information.
If the endpoint interfaces were pasted in the form instead of 'New', then some of this information is derived from the endpoints. The user can modify the endpoint.
360
(21) User enters the Sublayer Interface information for ATM only IP links.
For the other endpoint types the information is displayed only.
Some of the information is derived from the endpoints pasted in the form.
If the IP link supports multiple hops:
- The user has the option to paste in an existing ATM Path, by listing the paths, selecting it and pasting it in the window.
- The user has the option to create a path if it does not already exist, by clicking the 'ATM VCC Path' button. The path form is launch, the user creates a path and the path is provisioned on the network. Once the path is created the user can paste the path in this window.
- The user has the option to not specify any paths if none are required.
362
(22) User enters the MPLS information for MPLS IP link types only.
364
(23) User enters the ATM Traffic parameters for ATM only IP links.
If a Path was Pasted in the Sublayer panel, then this information is derived.
If no path was specified the information is defaulted to default values, the user has the option to override those values.
366
(24) User clicks on the Save button on the form to validate the information entered and the IP link is created
370
(25) The IP link is provisioned in the network, data is sent to the router(s)

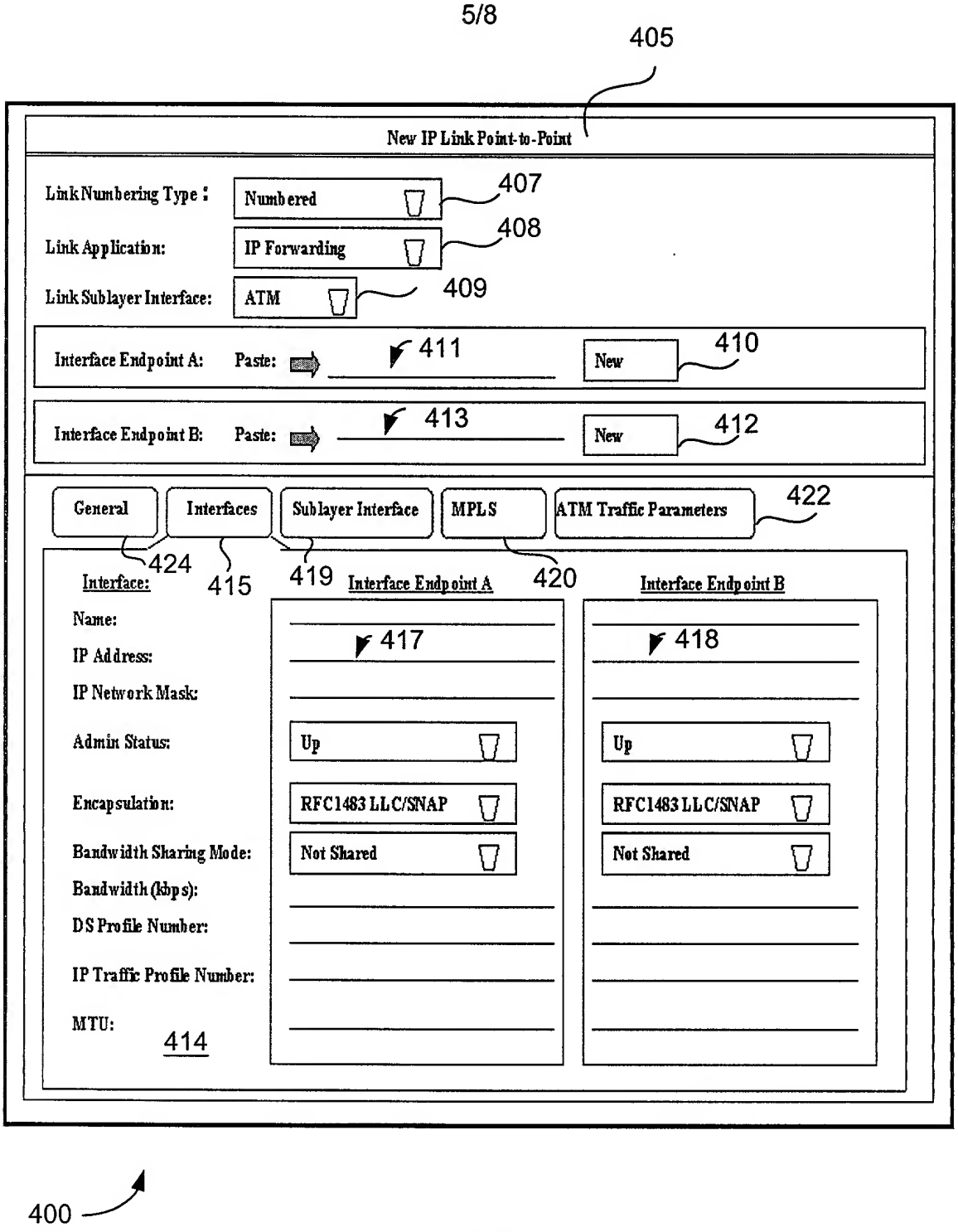

405
New IP Link Point-to-Point
Link Numbering Type :
Numbered
407
Link Application:
IP Forwarding
408
Link Sublayer Interface:
ATM
409
Interface Endpoint A:
Paste:
411
New
410
Interface Endpoint B:
Paste:
413
New
412
General
Interfaces
Sublayer Interface
MPLS
ATM Traffic Parameters
422
424
415
419
420
Interface:
Interface Endpoint A
Interface Endpoint B
Name:
IP Address:
417
418
IP Network Mask:
Admin Status:
Up
Up
Encapsulation:
RFC1483 LLC/SNAP
RFC1483 LLC/SNAP
Bandwidth Sharing Mode:
Not Shared
Not Shared
Bandwidth (kbps):
DS Profile Number:
IP Traffic Profile Number:
MTU:
414
400

FIG. 4

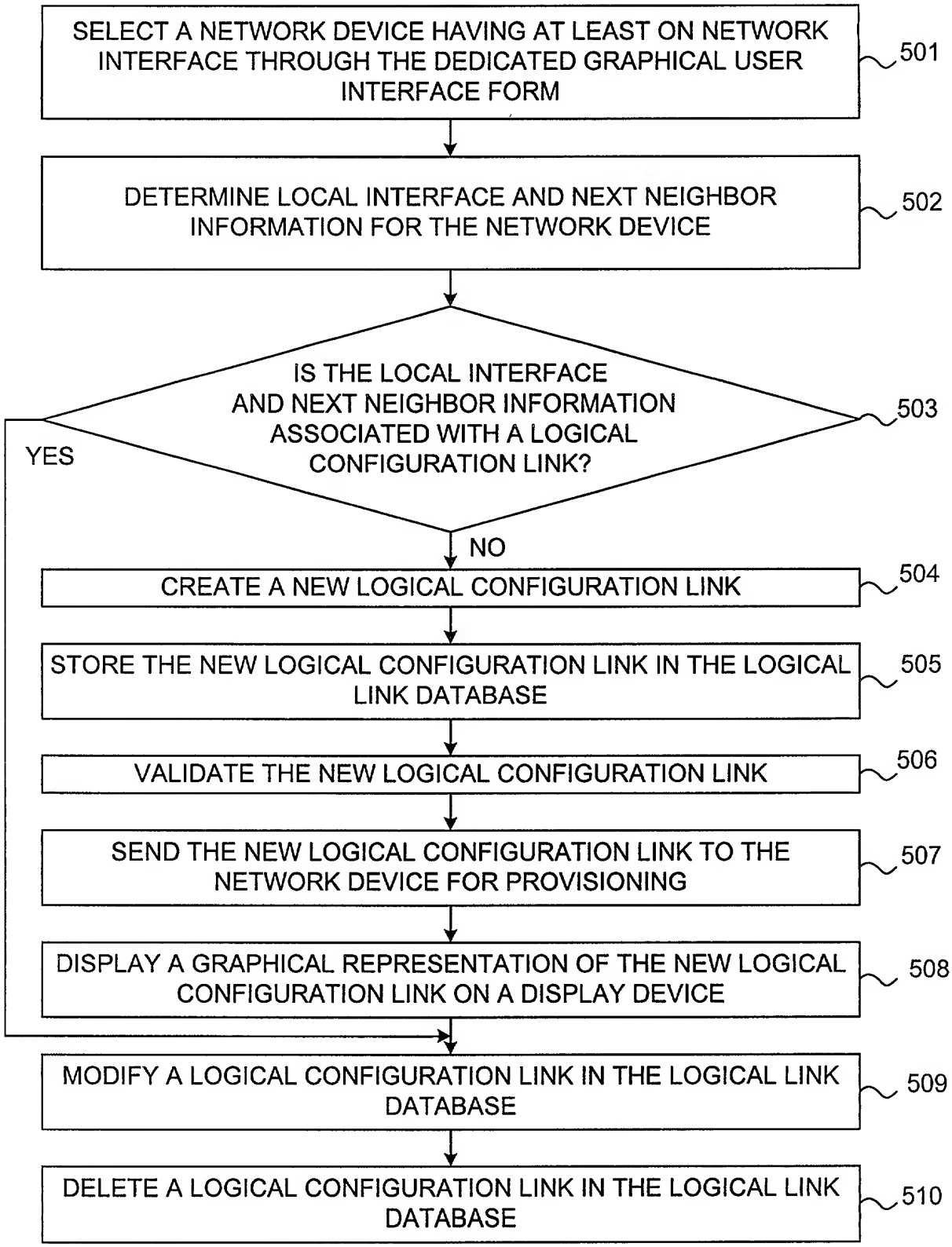

SELECT A NETWORK DEVICE HAVING AT LEAST ON NETWORK INTERFACE THROUGH THE DEDICATED GRAPHICAL USER INTERFACE FORM
501
DETERMINE LOCAL INTERFACE AND NEXT NEIGHBOR INFORMATION FOR THE NETWORK DEVICE
502
IS THE LOCAL INTERFACE AND NEXT NEIGHBOR INFORMATION ASSOCIATED WITH A LOGICAL CONFIGURATION LINK?
503
YES
NO
CREATE A NEW LOGICAL CONFIGURATION LINK
504
STORE THE NEW LOGICAL CONFIGURATION LINK IN THE LOGICAL LINK DATABASE
505
VALIDATE THE NEW LOGICAL CONFIGURATION LINK
506
SEND THE NEW LOGICAL CONFIGURATION LINK TO THE NETWORK DEVICE FOR PROVISIONING
507
DISPLAY A GRAPHICAL REPRESENTATION OF THE NEW LOGICAL CONFIGURATION LINK ON A DISPLAY DEVICE
508
MODIFY A LOGICAL CONFIGURATION LINK IN THE LOGICAL LINK DATABASE
509
DELETE A LOGICAL CONFIGURATION LINK IN THE LOGICAL LINK DATABASE
510

FIG. 5

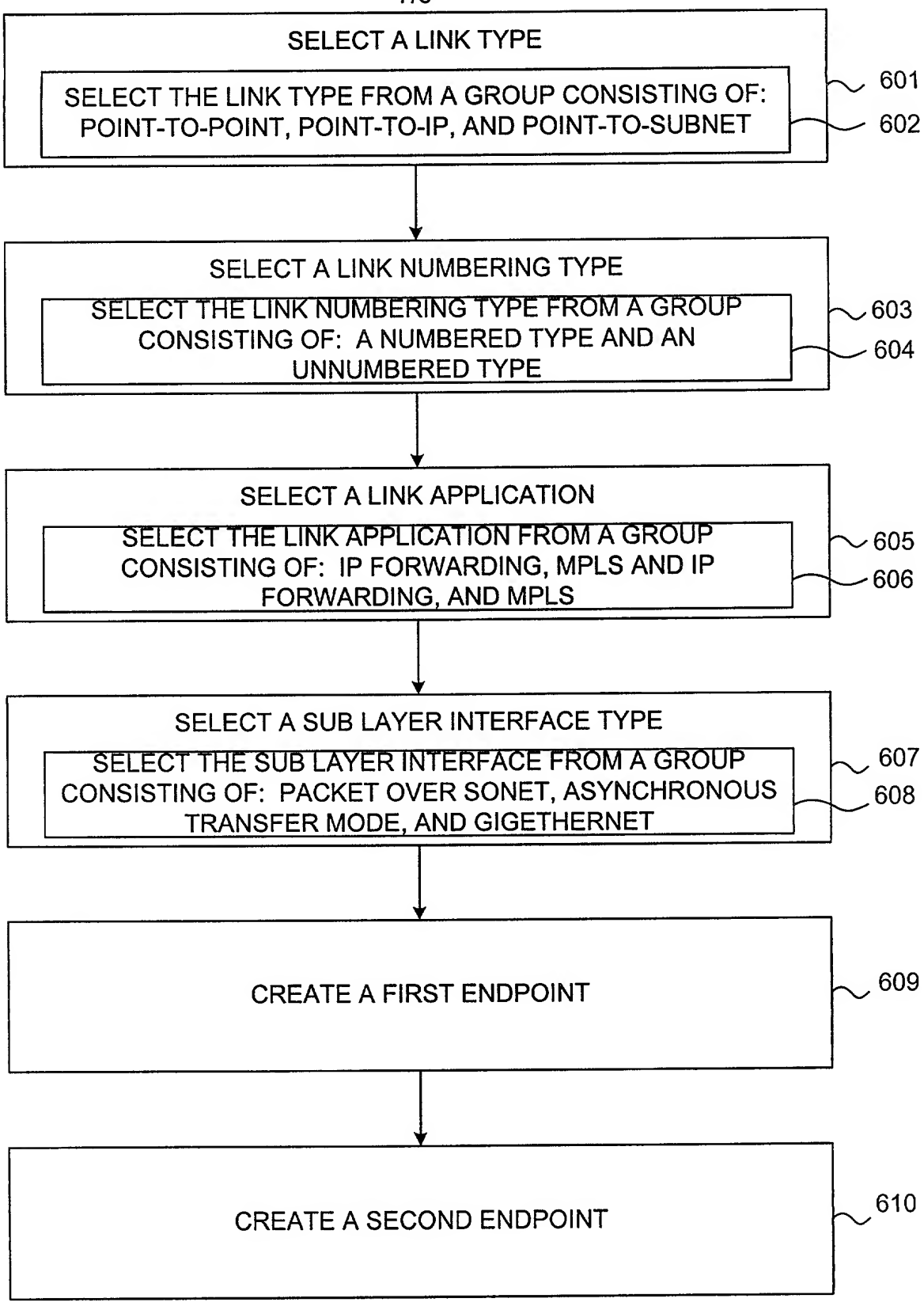

SELECT A LINK TYPE
SELECT THE LINK TYPE FROM A GROUP CONSISTING OF: POINT-TO-POINT, POINT-TO-IP, AND POINT-TO-SUBNET
601
602
SELECT A LINK NUMBERING TYPE
SELECT THE LINK NUMBERING TYPE FROM A GROUP CONSISTING OF: A NUMBERED TYPE AND AN UNNUMBERED TYPE
603
604
SELECT A LINK APPLICATION
SELECT THE LINK APPLICATION FROM A GROUP CONSISTING OF: IP FORWARDING, MPLS AND IP FORWARDING, AND MPLS
605
606
SELECT A SUB LAYER INTERFACE TYPE
SELECT THE SUB LAYER INTERFACE FROM A GROUP CONSISTING OF: PACKET OVER SONET, ASYNCHRONOUS TRANSFER MODE, AND GIGETHERNET
607
608
CREATE A FIRST ENDPOINT
609
CREATE A SECOND ENDPOINT
610

FIG. 6

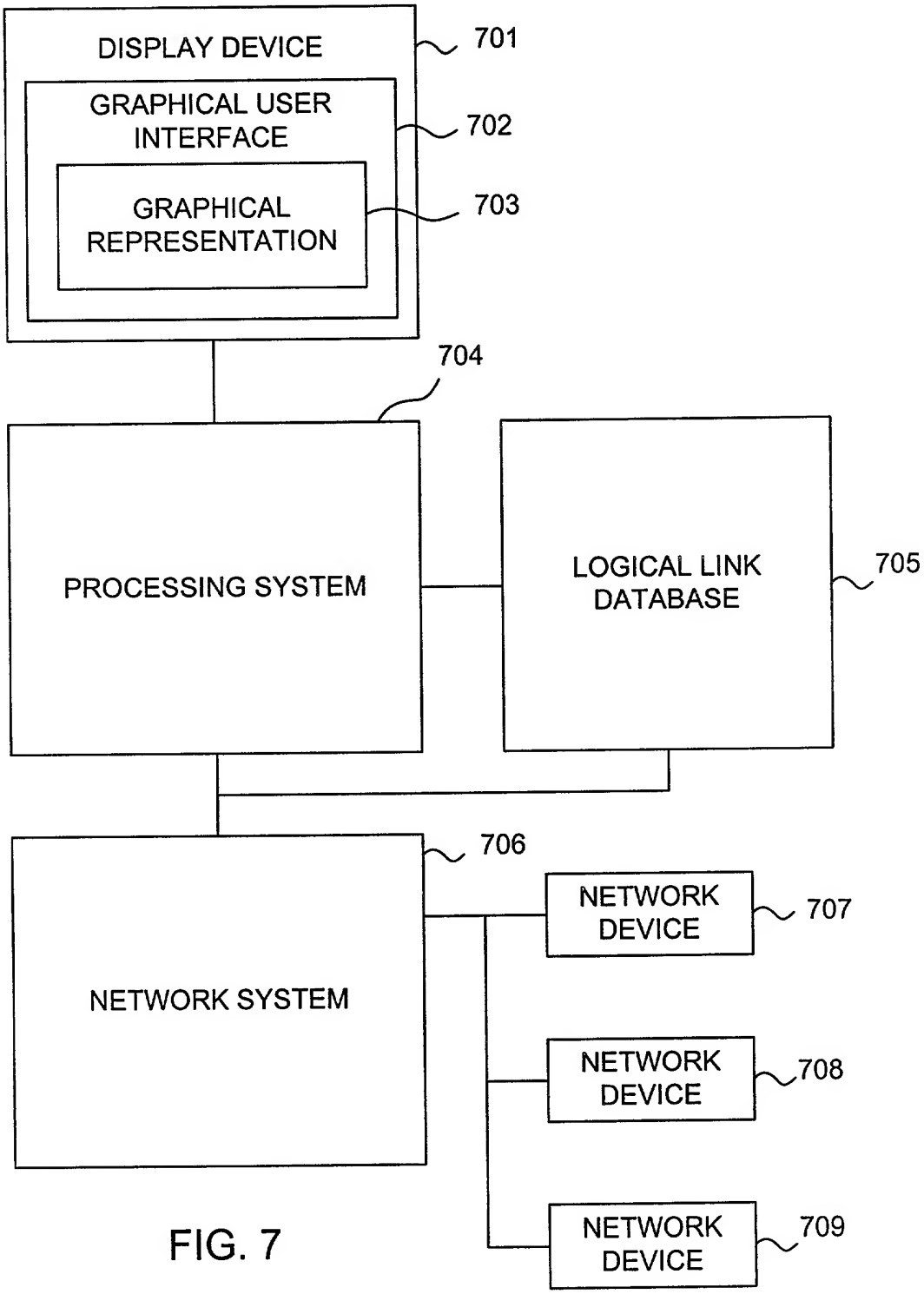

DISPLAY DEVICE
701
GRAPHICAL USER INTERFACE
702
GRAPHICAL REPRESENTATION
703
704
PROCESSING SYSTEM
LOGICAL LINK DATABASE
705
706
NETWORK SYSTEM
NETWORK DEVICE
707
NETWORK DEVICE
708
NETWORK DEVICE
709

FIG. 7